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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,475	06/01/2007	Ralf Hying	3717483-00085	5907

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EXAMINER	
CHOWDHURY, SULTAN U.	

ART UNIT	PAPER NUMBER
2878	

NOTIFICATION DATE	DELIVERY MODE
09/30/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

chicago.patents@klgates.com

Office Action Summary	Application No.	Applicant(s)	
	10/598,475	HYING ET AL.	
	Examiner	Art Unit	
	SULTAN CHOWDHURY	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *42-47 and 49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *42-47 and 49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to Applicant's Amendment filed on 08/02/10. Clams 1-41, 48, 50-53 have been cancelled. Claims 42-47, 49 are pending

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 42-47, 49 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As of claim 42, there is no written description of emitting light at a first angle; measuring a first time period between emitting the light at the first angle and receiving the light a first time; emitting light from at a second angle different from the first angle; measuring a second time period between emitting the light at the second angle and receiving the light a second time; emitting light at a third angle different from the first angle and the second angle; measuring a third time period between emitting the light at the third angle and receiving the light a third time; ascertain a fourth light intensity; ascertain a fourth angle that is normal to the projection surface based on the first time period between, the second time period, and the third time period; projecting the image an angle that is parallel to the fourth angle.

Claims 43-47, 49 are rejected as being dependent on claim 42.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 42-47, 49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As of claim 42, “first angle”, “second angle”, “third angle” and “fourth angle” are indefinite due to lack of written description. For the purpose of examination, the examiner interpreted (as understood by the examiner) first angle as elevation angle, second angle as roll angle, third angle as azimuth angle and fourth angle as ideal angle.

“first time period”, “second time period” and “third time period” are indefinite due to lack of written description. For the purpose of examination, the examiner interpreted (as understood by the examiner), different measurements of the time periods are done by the sensors.

“ascertain a fourth light intensity" is indefinite due to lack of written description. For the purpose of examination, the examiner interpreted (as understood by the examiner), the measurement of fourth light intensity is done by repeating the angle measurement process.

Claims 43-47, 49 are rejected as being dependent on claim 42.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 42, 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Raskar (US 6,520,647 B2).

As of claim 42, Raskar teaches a method of projecting an image from a projection device 100 [Fig 1a] (projector), the method comprising:

- emitting light from the projection device 100 [Fig 1a] (projector) to a projection surface (screen) 101 at a first angle 301 (elevation angle) (col 2, lines 40-45), measuring a first time period (using sensors 201-203) between emitting the light at the first angle 301 and receiving the light a first time (when the projector receives reflected light from the screen);

- emitting light from the projection device 100 [Fig 1a] to the projection surface 101 at a second angle 302 (roll angle) (col 2, lines 40-45) different from the first angle, measuring a second time period (using sensors 201-203) between emitting the light at the second angle and receiving the light a second time (when the projector receives reflected light from the screen);

- emitting light from the projection device to the projection surface at a third angle 303 (azimuth angle) (col 2, lines 40-45) different from the first angle and the second angle, measuring a third time period (using sensors 201-203) between emitting the light at the third angle and receiving the light a third time (when the projector receives reflected light from the screen);

- ascertain a fourth light intensity (by repeating the angle measuring process), ascertain a fourth angle 312 (ideal angle) (col 2, lines 40-45) that is normal to the projection surface; see [0028] based on the first time period between, the second time period, and the third time period (using sensors 201-203), projecting the image from the projection device 100 [Fig 1] at an angle that is parallel to the fourth angle 312.

As of claim 45, Raskar teaches emitting light from the projection device 100 [Fig 1a] to the projection surface 101 at the first angle 301 includes emitting light from a laser; see [0020].

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raskar in view of Minich et al (US 5, 700,076 A; Minich).

As of claim 43, Raskar teaches the invention as cited above except for the first, second and third light intensities.

Minich teaches an image processing system and method, comprising three lasers 222 (red), 226 (green) and 230 (blue) [Fig 2] producing sequential mono-colored pulses of high intensity light (col 6, lines 40-43).

It would have been obvious to a person of ordinary skill in the art at the time of invention to have three light intensities produced by lasers as taught by Minich to the system as disclosed by Raskar in order to provide a new and improved laser illuminated image projection system and a method of using it, to produce bright display images in a highly efficient manner (col 3, lines 28-30; Minich).

As of claim 44, Raskar teaches the invention as cited above except for regulating brightness using three light intensities.

Minich teaches a method of regulating brightness (via modulator 624) [Fig 6] associated with projecting the image from the projection device based on the first light intensity from laser 222, the first second intensity from laser 226, and the third light intensity from laser 230.

It would have been obvious to a person of ordinary skill in the art at the time of invention to have three light intensities produced by lasers as taught by Minich to the system as disclosed by Raskar in order to provide a new and improved laser illuminated image projection system and a method of using it, to produce bright display images in a highly efficient manner (col 3, lines 28-30; Minich).

10. Claims 46, 47, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raskar in view of Tanaka (US 5,541,723 A).

As of claim 46, Raskar teaches the invention as cited above except for first angle measurement is done by a light emitting diode.

Tanaka teaches the light projector to carry out a first light projection to emit a first light LED1 [Fig 18] at a predetermined angle with a first light distribution (col 5, lines 9-11).

It would have been obvious to a person of ordinary skill in the art at the time of invention to have three light intensities produced by LED's as taught by Tanaka to the system as disclosed by Raskar in order to achieve correct object distance information (col 5, lines 33-34; Tanaka).

As of claim 47, Raskar teaches the invention as cited above except for a first time period.

Tanaka teaches measuring the first time period between emitting the light by LED 1 at the first angle and receiving the light the first time uses a photodiode (PSD); (col 1, lines 20-25).

It would have been obvious to a person of ordinary skill in the art at the time of invention to have time period as taught by Tanaka to the system as disclosed by Raskar in order to achieve correct object distance information (col 5, lines 33-34; Tanaka).

As of claim 49, Raskar teaches the invention as cited above except for repeating steps at different time intervals.

Tanaka teaches each step is repeated at different time interval (col 5, lines 20-25).

It would have been obvious to a person of ordinary skill in the art at the time of invention to have repeating steps as taught by Tanaka to the system as disclosed by Raskar in order to achieve correct object distance information (col 5, lines 33-34; Tanaka).

Response to Arguments

11. Applicant's arguments filed on 08/02/10 have been fully considered but they are not persuasive. More specifically:

As of claim 42, Raskar does not teach the claim limitations. Examiner respectfully disagree with Applicant's arguments. First of all Applicant has clearly failed to point out different features of the invention in the description. It is very difficult for the examiner to understand the limitations of the claim by reading through steps S1 through S11 of Fig. 1. The Applicant also argues that Raskar does not teach the claim limitations. The Examiner argues that Raskar reference teaches a method of projecting an image from a projection device 100 [Fig 1a] (projector), the method comprising: emitting light from the projection device 100 [Fig 1a] (projector) to a projection surface (screen) 101 at a first angle 301 (elevation angle) (col 2, lines 40-45), measuring a first time period (using sensors 201-203) between emitting the light at the first angle 301 and receiving the light a first time (when the projector receives reflected light from the screen); emitting light from the projection device 100 [Fig 1a] to the projection surface 101 at a second angle 302 (roll angle) (col 2, lines 40-45) different from the first angle, measuring a second time period (using sensors 201-203) between emitting the light at the second angle and receiving the light a second time (when the projector receives reflected light from the screen); emitting light from the projection device to the projection surface at a third angle 303 (azimuth angle) (col 2, lines 40-45) different from the first angle and the second angle, measuring a third time period (using sensors 201-203) between emitting the light at the

third angle and receiving the light a third time (when the projector receives reflected light from the screen); ascertain a fourth light intensity (by repeating the angle measuring process), ascertain a fourth angle 312 (ideal angle) (col 2, lines 40-45) that is normal to the projection surface; see [0028] based on the first time period between, the second time period, and the third time period (using sensors 201-203), projecting the image from the projection device 100 [Fig 1] at an angle that is parallel to the fourth angle 312.

Citation of Relevant Prior Art

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Prior Art Doany et al. (US 6371616 B1) teaches an Information processing miniature device with embedded projectors;

- Prior Art Williams (US 2002/0063855) teaches Digital projection system for phones and personal digital assistants.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SULTAN CHOWDHURY whose telephone number is (571)270-3336. The examiner can normally be reached on Monday through Thursday, 7:00-4:30 with alternate Monday through Friday 7:00 AM through 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GEORGIA EPPS can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. C./
Examiner, Art Unit 2878

/Georgia Y Epps/
Supervisory Patent Examiner, Art Unit 2878